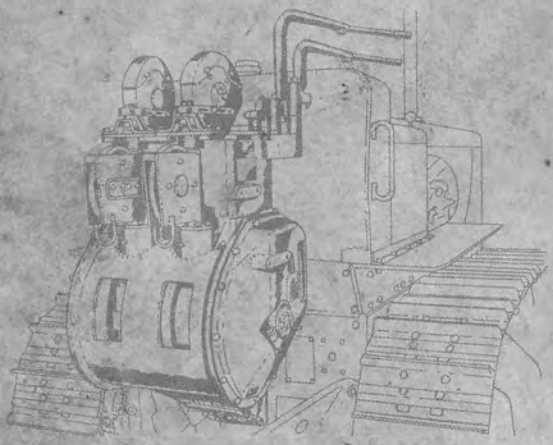
FE031538-10

OPERATION AND MAINTENANCE INSTRUCTIONS

CATERPILLAR

126
CABLE CONTROL

FORMERLY NO. 25 CABLE CONTROL



SERIAL NUMBERS

9D501-UP

32E1-UP

Foreword

Caterpillar products are a result of advanced engineering, skilled manufacturing, and the finest materials metallurgical science can select. Thousands of satisfying, economical working hours are built into each machine.

Whether or not the owner derives the maximum service from his machine depends largely on the care exercised in its operation and maintenance. This book is written to give the operator essential information regarding the day-to-day operation, lubrication and adjustment of the machine. Careful adherence to these instructions will result in assured economy.

More and more Caterpillar owners are depending upon their dealer for service other than the care and adjustments described in this book. This practice is recommended because Caterpillar dealers have stocks of genuine Caterpillar parts and are equipped with tools designed and built by Caterpillar. Their servicemen are factory-trained and are kept closely informed by the factory regarding advanced methods of servicing Caterpillar products — thus, in all ways they are equipped to render the best of service.

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Avoid Accidents

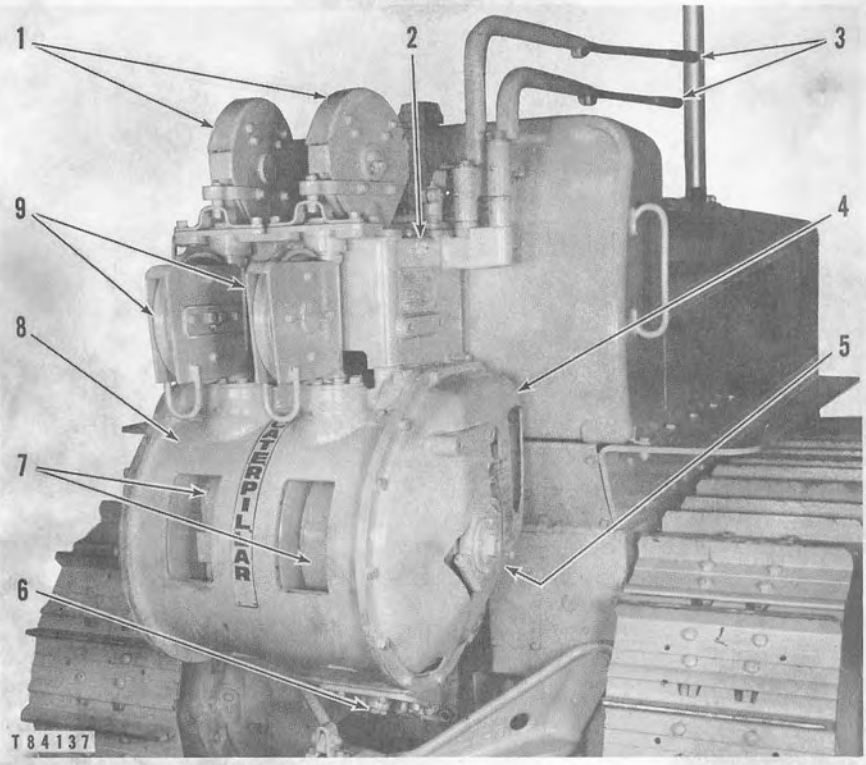
Most accidents, whether they occur in the air, in industry, on the farm, at home, on the highways, or at sea, are caused by someone's failure to follow simple and fundamental safety rules or precautions. For this reason most accidents can be prevented by recognizing the real cause and doing something about it before the accident occurs.

Regardless of the care used in the design and construction of any type of equipment, there are many conditions that cannot be completely safeguarded against without interfering with reasonable accessibility and efficient operation.

A careful operator is the best insurance against an accident.

The complete observance of one simple rule would prevent many thousands of serious injuries each year. That rule is: "Never attempt to clean, oil or adjust a machine while it is in motion."

T2646



126 CABLE CONTROL RIGHT REAR VIEW
(Formerly No. 25 Cable Control)
(Rear Mounted Double Drum)

1–Swivel sheaves. 2–Sheave bracket support. 3–Control levers. 4–Clutch and brake cover. 5–Gear case breather. 6–Gear case drain. 7–Cable drums. 8–Gear case. 9–Fair lead sheaves.

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Lubrication Instructions

SERVICE METER

Detailed instructions regarding the lubrication of the cable control are given in the lubrication chart and in the illustrations following. The established intervals in the lubrication chart and maintenance instructions are given in service hours. Service hours are to be interpreted as those recorded on the Service Meter of the tractor. The intervals indicated are for normal service. For operating conditions of extreme water, dust and mud lubricate more frequently. Clean fittings before lubricating so that dirt will not be carried in with the lubricant.

GENERAL LUBRICATING INFORMATION

Careful attention to the following information on lubricants and their proper selection will add much to performance, economy and long life of the cable control. The lubrication chart specifies the lubricants to be used, the points to be serviced and the intervals of servicing according to service hours.

DESCRIPTION OF LUBRICANTS

The lubricants recommended for use in this cable control can be identified by the sub-headings preceding their descriptions that follow. The proper selection of oil and SAE grade of oil can be made from the information in the topic, TYPE OF LUBRICANTS AND SAE GRADES TO USE.

Crankcase Lubricating Oil

Superior Lubricants (Series 3) Only: These are additive-type oils that have been identified as meeting a rigid, high quality standard and certified for use in all Caterpillar Diesel Engines. See your Caterpillar dealer for brand names of products conforming to this specification.

Lubricating Grease

Multipurpose-Type Grease: This lubricant is a mixture of mineral oil and metallic or non-metallic thickeners.

Use NLGI No. 2 Grade for most temperatures. For extremely low temperatures, use NLGI No. 0 or No. 1 Grade.

This grease can be applied to all points, such as chassis, wheel bearings, universal joint and other miscellaneous applications.

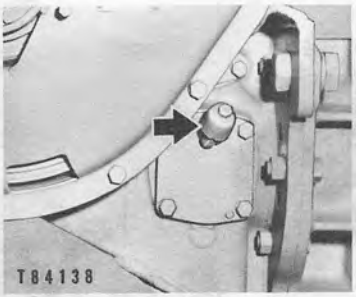
Type of Lubricants and SAE Grades to Use

The grade of oil is classified in terms of viscosity (fluidity or flow ability) and is identified with numbers called SAE numbers. Oils with lower SAE numbers are more fluid and flow more readily than do those with the higher numbers.

OIL SPECIFICATION CHART

Compartment	SAE GRADE OF OIL TO USE AT STARTING ATMOSPHERIC TEMPERATURES			
	Above +32°F.	+32°F. to +10°F.	+10°F. to −10°F.	−10°F. and Lower
Gear Case	Superior Lubricants (Series 3) Only			
	SAE 30	SAE 30	SAE 10W	SAE 10W

CO Crankcase Lubricating Oil

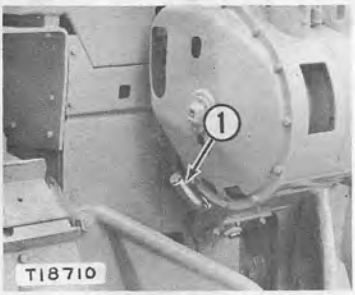


8

GEAR CASE BREATHER

Remove the breather every 250 service hours and wash thoroughly. Saturate element with oil and reinstall.

On earlier cable controls the breather is located on the gear case between the fairlead sheaves.

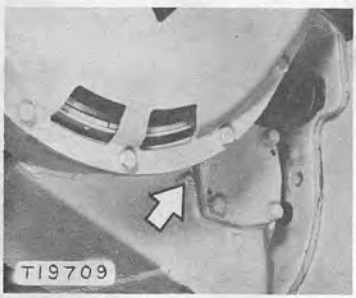


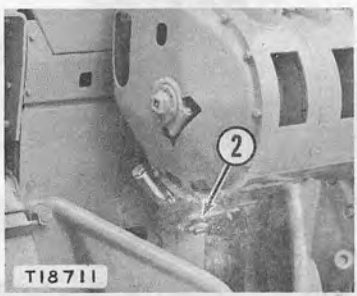
10

GEAR CASE

Use Superior Lubricants (Series 3) Only

Check oil level every 125 service hours. Oil should be up to the top of the filler neck (1). On earlier models, oil should be up to level plug hole on right side of gear case. To refill, remove breather on top of gear case.





10

GEAR CASE

Use Superior Lubricants (Series 3) Only

Every 1000 service hours, drain gear case at (2), wash and refill until oil is up to the top of the filler neck.

On earlier models, refill to level plug hole on right side of gear case.

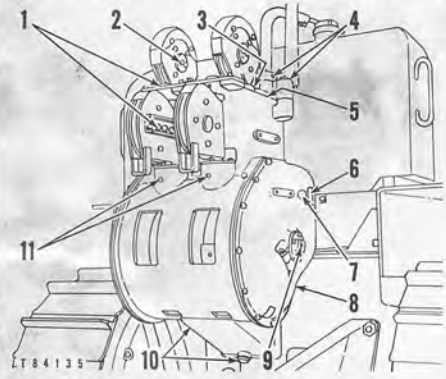
See the topic, "Washing Gear Compartments."

CABLE CONTROL LUBRICATION

SEE OPERATION AND MAINTENANCE INSTRUCTIONS FOR DETAILED INFORMATION

See Note Below	Point and Identification	Lubricant	Approximate Quantity (U.S. Measure)	No. of Service Points	SERVICE HOURS 125	250	1000	20
	1 FAIR-LEAD SHEAVE SHROUD UPPER BEARINGS	BR	3 STROKES	2	*L			
Notes 1 and 2	FAIR-LEAD SHEAVES	BR	5 STROKES	2	*L			
	2 SWIVEL SHEAVES	BR	5 STROKES	2	*L			
	3 SWIVEL SHEAVE SUPPORT BRACKETS	BR	3 STROKES	2	*L			
	4 CONTROL LEVER SHAFT UPPER BEARINGS	BR	3 STROKES	4	*L			
	5 SWIVEL SHEAVE PIVOT SHAFT	BR	3 STROKES	2	*L			
	6 CONTROL LEVER SHAFT LOWER BEARINGS AND BRAKE LEVERS	BR	3 STROKES	4	*L			
	7 CLUTCH LEVER ROLLER	BR	3 STROKES	2	*L			
Note 8	8 GEAR BASE BREATHER	CO		1		WO		
	9 CLUTCH ENGAGEMENT SCREW AND BEARINGS	BR	REPACK	2				
	10 GEAR CASE	CO	10 QUARTS	1	X		CW	
Note 11	11 FAIR-LEAD SHEAVE SHROUD LOWER BEARINGS	BR	3 STROKES	2			L	

*WHEN CABLE CONTROL IS USED TO OPERATE BULLDOZER OR RIPPER LUBRICATE THE SHEAV SHEAVE BRACKETS, CONTROL LEVER SHAFT BEARINGS AND BRAKE MECHANISMS WHICH NOT IN OPERATION EVERY 250 SERVICE HOURS.



Key to Lubricants:

CO CRANKCASE LUBRICATING OIL
BR BALL AND ROLLER BEARING LUBRICAN

Key to Symbols:

L — LUBRICATE
CW — CHANGE AND WASH
WO — WASH AND OIL
X — CHECK, ADD OIL WHEN NEEDED

STROKES SHOWN IN THE QUANTITY COLU OF CHART ARE TO BE INTERPRETED AS AMOUNT OF GREASE REQUIRED FROM LEV TYPE GREASE GUN PROVIDED IN THE TRAC ATTACHMENT TOOL GROUP.

T84136 9M26 3

Key to Numerical Notes:

Notes 1 and 2 : Cable controls with earlier type sheave bearings require lubrication every 10 service hours with 5 strokes of BR.

Note 8: Cable controls before 9D5021 and 32E1027 require lubrication every 50 service hours with 2 or 3 strokes of BR at two service points.

Note 11: Earlier cable control fair lead sheave shroud lower bearings, equipped with fittings, require lubrication every 125 service hours. Every 250 service hours when cable control is used to operate bulldozer or ripper.

LUBRICATION CHART
CATERPILLAR
126 CABLE CONTROL
(Formerly No. 25)

The folded page is arranged to serve two purposes:

First, it is a complete outline of all the information required to lubricate the cable control.

Second, the illustration and identification of points of lubrication can be used with the detailed illustrations and information on the pages following the chart as a reference for lubrication and service information.

NOTE

The illustration for the lubrication instructions shows the cable control mounted on a D8 Tractor. The points of lubrication are the same for the cable control when it is mounted on either the D8, D7 or D6 Tractors.

BR Ball and Roller Bearing Lubricant

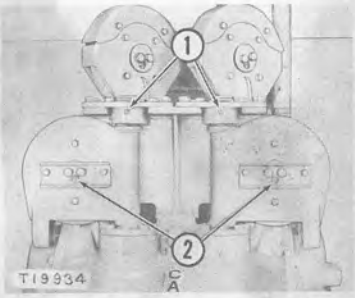
When the cable control is used to operate a bulldozer or ripper lubricate the sheaves, sheave brackets, control lever shaft bearings and brake mechanism which are not in operation every 250 service hours.

1

FAIR-LEAD SHEAVE SHROUD UPPER BEARINGS AND FAIR-LEAD SHEAVES

Lubricate bearings (1) and (2) every 125 service hours.

The earlier type sheaves equipped with unsealed bearings require lubrication every 10 service hours.

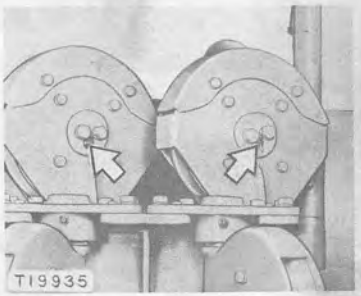


2

SWIVEL SHEAVES

Lubricate sheave bearings every 125 service hours.

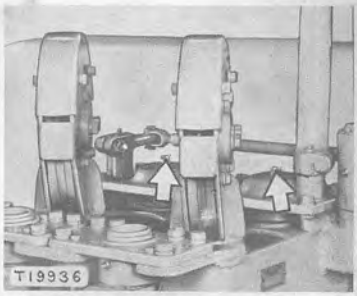
The earlier type sheaves equipped with unsealed bearings require lubrication every 10 service hours.



3

SWIVEL SHEAVE SUPPORT BRACKETS

Lubricate both upper and lower bearings through fittings on top every 125 service hours.

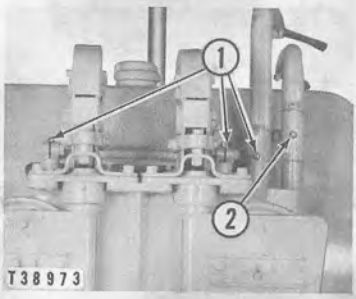


4

CONTROL LEVER SHAFT UPPER BEARINGS

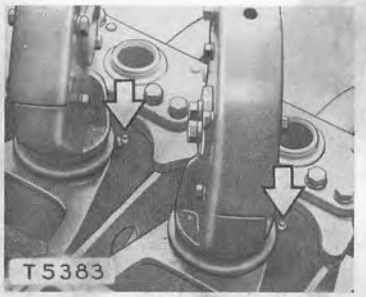
Lubricate bearings through fittings at (1) sparingly every 125 service hours.

Also on later cable controls mounted on D6 tractors, lubricate control lever bearing through fitting at (2) every 125 service hours.



BR Ball and Roller Bearing Lubricant

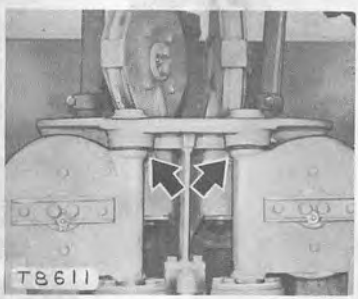
When the cable control is used to operate a bulldozer or ripper lubricate the sheaves, sheave brackets, control lever shaft bearings and brake mechanism which are not in operation every 250 service hours.



5

SWIVEL SHEAVE PIVOT SHAFTS (Later Models)

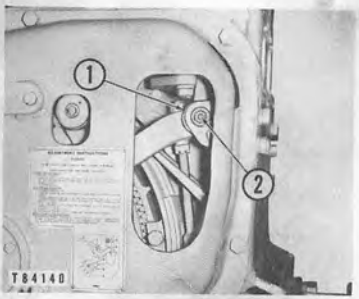
Lubricate bearings every 125 service hours.



5

SWIVEL SHEAVE PIVOT SHAFTS (Earlier Models)

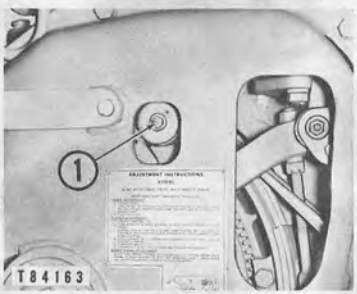
Lubricate bearings every 125 service hours.



6

CONTROL LEVER SHAFT LOWER BEARINGS AND BRAKE LEVERS

Lubricate bearings (1) and (2) on each side of the cable control every 125 service hours.



7

CLUTCH LEVER ROLLER

(Cable controls effective with 32E1396)

Lubricate roller (1) on each side of cable control every 125 service hours.

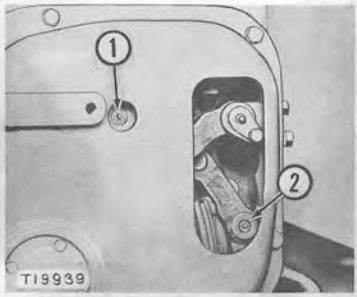
BR Ball and Roller Bearing Lubricant

7

CLUTCH LEVER ROLLER AND ANCHOR LINK ROLLER

(Cable controls before 32E1396)

Lubricate rollers (1) and (2) on each side of the cable control every 125 service hours.



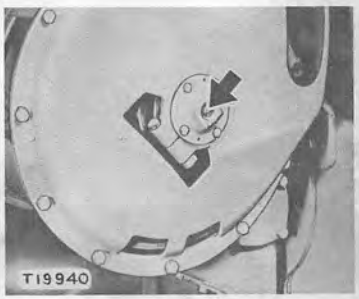
9

CLUTCH ENGAGEMENT SCREW AND BEARINGS

Pack the clutch engagement screw and shaft bearings, either by hand or by mechanical bearing packers, every 2000 service hours or if necessary whenever the bearings are removed for any reason.

Relief valves are installed in the retainers in place of hydraulic fittings to relieve pressure build-up and prevent lubrication with a grease gun because over lubrication may damage the seals.

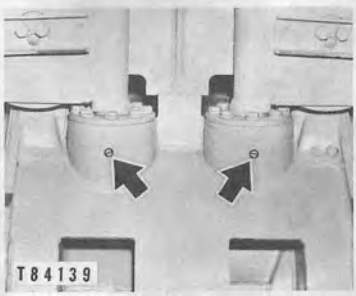
On cable controls before 9D5021 and 32E1027, not equipped with double lip seals, lubricate the clutch engagement screw and shaft bearings sparingly with two or three strokes of the lever type grease gun every 50 service hours through lubricant fittings in the retainers.



11

FAIR-LEAD SHEAVE SHROUD LOWER BEARINGS

Every 1000 service hours lubricate the fair-lead sheave shroud lower bearings. Remove the plugs and install fittings, after lubrication replace the plugs. Earlier cable controls, equipped with fittings, lubricate the fair-lead sheave shroud lower bearings every 125 service hours.



Operation Instructions

GENERAL OPERATION INSTRUCTIONS

The cable control is driven by the tractor engine through the coupling which is connected to the transmission upper shaft. When the engine is running and the flywheel clutch is engaged, all of the cable control gears and the clutch driving discs are turning.

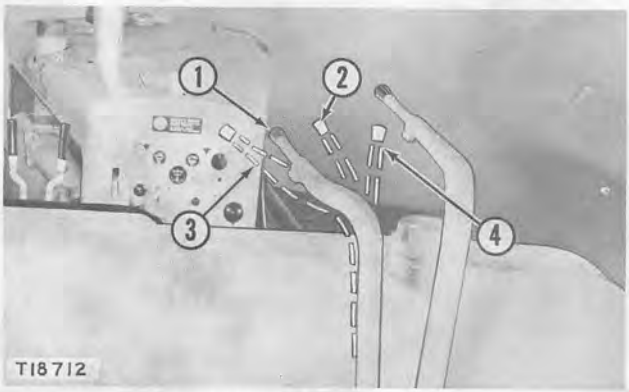
Two control levers for the cable control are mounted within easy reach of the operator, extending forward over the fuel tank and seat to the right of the operator. The left (lower) control lever operates the right drum of the cable control and the right (upper) control lever operates the left drum. Both control levers can be placed in the four positions; clutch engaged, neutral, brake released and lockout.

1. The cable is spooled onto the drum when the cable control lever is moved toward the operator to the clutch engaged position **(3)**. In this position the engaging mechanism causes the driven discs to contact the driving discs thereby turning the cable drum.

2. When the control lever is in the neutral position **(1)** the brake is applied by a brake spring and the clutch is disengaged. This holds the cable drum in the desired position.

3. The cable is unspooled from the drum by the load on the cable when the control lever is moved away from the operator to the brake released position **(2)**.

4. The control lever may be moved to the lockout position **(4)** where it will be held by a notch in the brake lever. The cable drum can be turned in either direction by hand when the control lever is in the lockout position.

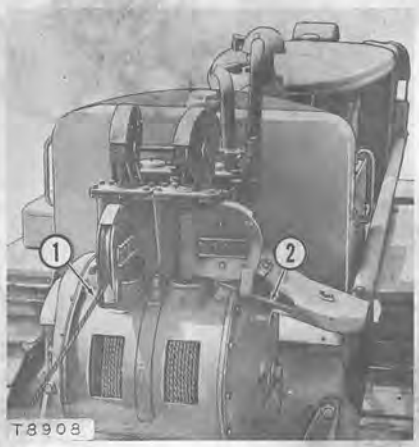


CONTROL LEVER POSITIONS
1—Neutral. 2—Brake released. 3—Clutch engaged. 4—Lockout.

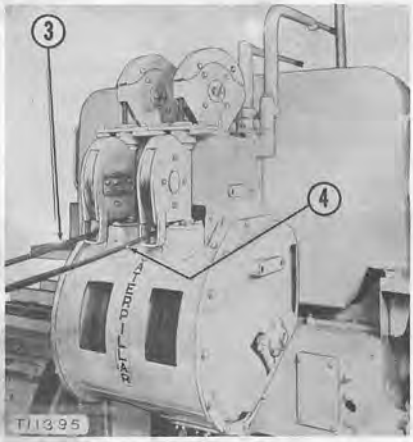
The cable drum is held by the self energizing brake when the control lever is in the neutral position. The brake spring is adjustable effective with 9D3192 to provide an adjustment of the brake spring so that a better control of the brake can be obtained for the different applications of the cable control. See the topic, BRAKE ADJUSTMENT.

When the cable control is used for operating a bulldozer, the right drum cable **(2)** is spooled onto the right drum, leaving the left drum cable **(1)** for operation of a ripper.

For operation of a scraper the right drum cable **(4)** controls the bowl and the left drum cable **(3)** controls the apron and ejector.



CABLE CONTROL FOR RIPPER AND BULLDOZER USE
1—Left drum cable to ripper. 2—Right drum cable to bulldozer.



CABLE CONTROL FOR SCRAPER USE
3—Left drum cable to apron and ejector. 4—Right drum cable to bowl.

PREPARING THE CABLE CONTROL FOR USE

The first duty of any one charged with the care and operation of a cable control is to give it a detailed inspection, and to lubricate all parts as directed in the LUBRICATION INSTRUCTIONS section of this book.

Second, the cable control should have any necessary adjustments made to obtain satisfactory performance. See the MAINTENANCE INSTRUCTIONS section of this book. If the cable is not installed, do so as outlined in the topic, CABLE REPLACEMENT. Make sure that the cable is reeved in even layers on the drum.

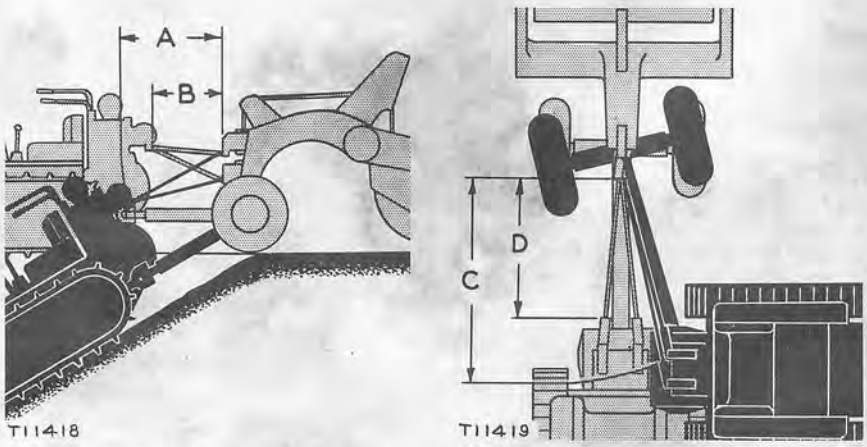
OPERATION OF THE CABLE CONTROL

Start the Diesel engine as instructed in the Operation and Maintenance Instructions for the D8, D7 or D6 Tractors. By engaging the flywheel clutch the cable control gears and clutch driving discs will start turning.

Engage the cable control clutch with a quick full movement of the control lever in order to avoid clutch slippage and overheating. Release the brake with a short movement of the lever. Let the lever return to the neutral position at the instant the equipment being used is in the desired position in order to avoid excess slack and fouling of the cable.

When the cable control is used for bulldozer or ripper work, only the control lever for the unused clutch should remain in the neutral position. Occasionally engaging the unused clutch will drive out dirt from between the clutch discs. If this dirt is allowed to pack between the discs it may cause unsatisfactory operation.

When operating a scraper, after unloading, operate with the bowl and the apron partially lowered. Turning the tractor and scraper with the bowl raised to its extreme limit, and the apron and ejector to the extreme unloading position may cause breakage because no provision exists for extra cable movement. The amount of extra cable movement necessary when turning the tractor is shown by the difference between the dimension C and D. A similar condition exists when operating the tractor over uneven ground as shown by dimensions A and B.



CHANGE IN DISTANCE BETWEEN CABLE CONTROL SHEAVES AND SHEAVES ON DRAWN EQUIPMENT

DAILY CARE

Attention should be given to the operations mentioned in this topic, every 10 hours or daily whichever occurs first.

A daily check of the cable control should be made to see if there are any loose nuts, bolts, or parts worn to such an extent that they are no longer serviceable. If corrective steps are taken immediately upon discovery of loose or worn parts, fewer forced stops and more economical operation will result.

Dirt should not be allowed to accumulate and pack on the cable control. A few minutes spent daily in keeping it clean are well repaid in greater ease and safety of operation.

Check clutch and brake adjustments daily and adjust if necessary.

Check the cable daily for excessive wear, kinks and fraying which may result in cable breakage. Excessive slack in the cable may cause it to become kinked. Avoid this as much as possible. Make sure that all the sheaves turn, as the cable will wear more rapidly if one of the sheaves does not turn freely. The cables should be replaced when they show signs of sufficient wear to permit breakage or interference with proper operation. See the topic, CABLE REPLACEMENT.

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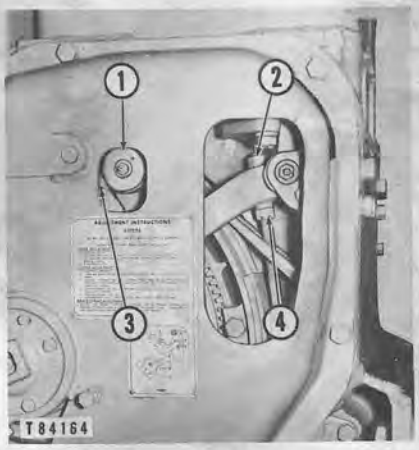
Maintenance Instructions

ADJUSTMENTS

Caterpillar Cable Controls have but a few moving parts which, if properly maintained, should give long trouble-free service. Maintenance of the cable, clutches, and brakes will be covered on the following pages. The clutch and brake are operated by the control rod which is connected to the clutch engagement lever. A roller on the clutch lever contacts the ramp on the brake lever which actuates the brake. Wear in the brake mechanism causes the roller on the clutch lever to move from its original position on the brake lever ramp and in turn changes the amount of free movement in the clutch mechanism. Therefore, **it is necessary to make the brake adjustment before making the clutch adjustment.**

Brake Adjustment: Adjust the brake by aligning the center of the roller **(1)** on the clutch lever with a small hole or "V" mark at **(3)** on the brake lever. Loosen the lock nut **(4)** and tighten the adjusting nut **(2)** to move the brake lever back. This allows the clutch return spring to pull the center of the roller to the small hole or "V" mark. Earlier model cable controls have the "V" mark on the brake lever.



BRAKE ADJUSTMENT

1–Roller. 2–Adjusting nut. 3–Small hole or "V" mark. 4–Locknut.

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Clutch Adjustment: Adjust the brake as instructed in the topic, BRAKE ADJUSTMENT. As a safety precaution **do not attempt to adjust the clutch with the engine running** since the gears and driving discs of the cable control will always be rotating unless the flywheel clutch is disengaged.

To adjust either clutch on later cable controls equipped with bolt **(9)**:

1. Loosen the clamp bolt **(8)**.
2. Turn retainer (adjusting screw) **(6)** counterclockwise until the retainer is tight and the clutch is fully engaged.
3. Loosen locknut on bolt **(9)** and then tighten the bolt until it contacts the pressure plate retainer **(7)**. Loosen the bolt **(9)** one complete turn.

for this particular cable for maximum efficiency, from the contour of the groove in the sheave to the sheave size, sheave bearings and all working parts.

There should be approximately two wraps of cable on the drum when the scraper bowl is operated at its deepest point, or when the scraper ejector is at the extreme rear position and the apron is down. This will provide enough cable to prevent unreeving it to the end and causing it to kink or pull out of the clamp or wedge. However, an excess amount of cable on the drum only tends to become frayed and worn. Also a greater amount of line pull is required to operate the equipment when excess cable is used. Approximately 5 to 6 wraps of cable should be on the right drum when the bowl is at ground level.

For normal bulldozer operation, approximately 4 wraps of cable should be on the right drum when the blade is at ground level. But when a bulldozer is used in rocks or clearing timber one or two more wraps of cable will be required. For ripper operation, the left drum should have approximately 6 to 8 wraps of cable on it when the teeth are at ground level.

CABLE REPLACEMENT

As a safety precaution, **do not attempt cable replacement with the engine running,** since the gears and driving discs of the cable control will always be rotating unless the flywheel clutch is disengaged.

Welding the new cable on each end will eliminate fraying and permit easier threading. **Unroll the cable from the reel, never lift it off in loops.**

Cable Replacement Effective With 9D22722: Loosen the wedge **(2)** and pull the old cable free of the cable control. Thread the new cable through the cable control up to the cable clamp as described in the following topic. Then push the cable **(1)** up between the retainer **(3)** and cable drum **(4)** and make a loop as illustrated around the wedge and drive it into place.

CABLE REPLACEMENT
(Effective With 9D22722)

1–Cable. 2–Wedge. 3–Retainer. 4–Cable drum.

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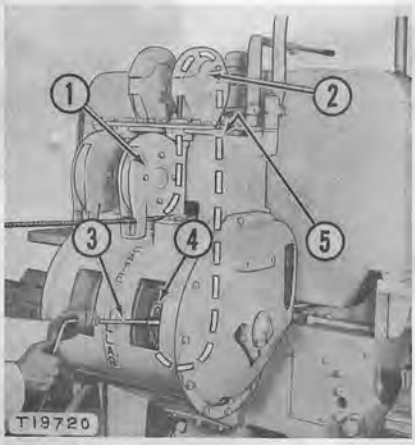
Cable Replacement Before 9D22722: Loosen the cable clamp **(4)**, using the wrench **(3)** as shown in the illustration, and remove the old cable. Thread the new cable through the sheave shroud assembly **(1)**, around the swivel sheave **(2)**, down through opening **(5)**, and up around the drum to clamp **(4)**. Insert the new cable with the end close to the clamp as illustrated and tighten the cable clamp securely.



CABLE REPLACEMENT (Before 9D22722)

1–Sheave shroud assembly. 2–Swivel sheave. 3–Wrench. 4–Cable clamp. 5–Opening.

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WASHING GEAR COMPARTMENTS

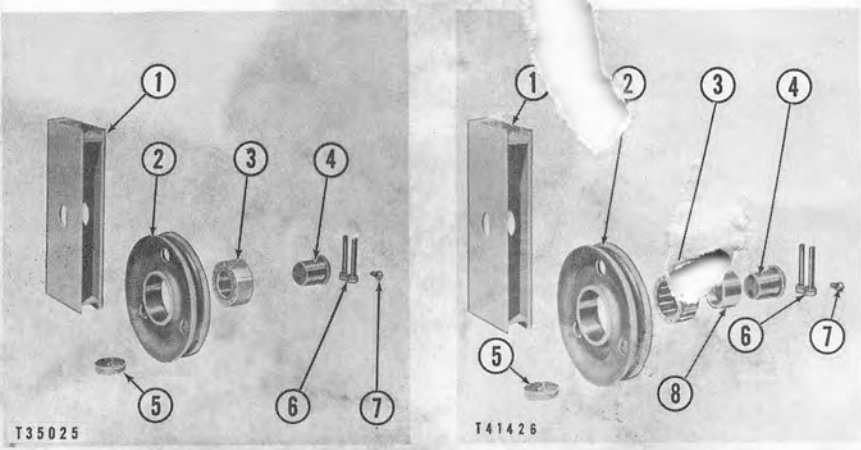
Washing The Cable Control Gear Case: Remove the drain plug from the housing when the oil is warm and allow the oil to drain. Replace the drain plug and fill to the proper level with kerosene or clean diesel fuel. Start the diesel engine, engage the flywheel clutch and allow the engine to idle for five minutes to operate the gears and wash the housing. Stop the diesel engine and drain the cleaning fluid. Refill the housing to the proper level as instructed in the LUBRICATION INSTRUCTIONS section of this book.

SHEAVE AND SHEAVE BEARINGS

Sheave bearings **(3)** are the straight roller type, later ones are sealed requiring no adjustment. Sheaves should be checked occasionally for free turning without excessive play, breakage, other damage or binding, to obtain normal cable life.

Sheave shafts are securely retained in sheave block assemblies by the method shown in the illustration. The retainer **(5)** is tapped to take two long bolts **(6)** which go through shaft **(4)** to hold the shaft securely in the sheave block **(1)**. If the sheave **(2)** fails to turn, check for lubrication and damage to the bearing. Check the condition of the fitting **(7)** and the lubricant passage in the shaft. If the sealed bearing in the later type sheave is damaged, press the damaged bearing from the sheave and install a new bearing.

If the unsealed bearing in the earlier type sheave is damaged install a new bearing. If the earlier type bearing, sl[illegible]e and race **(8)** are damaged replace with a later type sheave and se[illegible]bearing.



(Later Type Sheave) **(Earlier Type Sheave)**

TYPICAL SHEAVE ASSEMBLY

1–Sheave block. 2–Sheave. 3–Bearing. 4–Shaft. 5–Retainer. 6–Bolts. 7–Fitting. 8–Race (earlier type).

Check the cable grooves in the sheaves occasionally for excessive wear. Replace sheaves where this condition exists to prolong cable life.

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Specifications

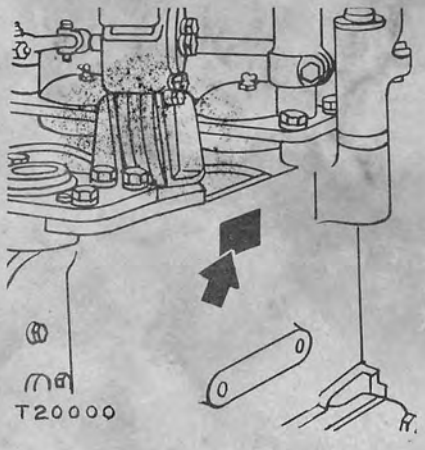
126 CABLE CONTROL, REAR DOUBLE DRUM
(Formerly No. 25 Cable Control)

For Use with Tra...	D8	D7	D6
Line Speed F.P.M., ...are Drum	412 *	412 *	436 **
Cable Size	1/2"	1/2"	1/2"
Gear Comp... ...ment Oil Capacity	10 qts.	10 qts.	10 qts.

* D8 Tractors before 13A1 and D7 Tractors before 17A1—343 F.P.M.

** D6 Tractors before 8U7662 and 9U16537—376 F.P.M.

Location of Serial Number



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